

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY



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| To:   | DUE DATE: <u>1</u><br>FORMALITIES: <u>JHV / IPC C</u><br>PAT. OFF: <u>BF</u><br>ON DB: <u>21 MAR 05</u><br>CASE NO: <u>PU0294-167</u> |
| <small>Post office mailing<br/>(day/month/year)</small> |   |
| <small>16.03.2005</small>                               |   |

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

*P✓* (PCT Rule 71.1)

|   |  |  |
|---|--|--|
| Applicant's or agent's file reference<br><br>PU0294-PCT | <b>IMPORTANT NOTIFICATION</b>                                |  |
| International application No.<br><br>PCT/EP 03/12947    | International filing date (day/month/year)<br><br>19.11.2003 | Priority date (day/month/year)<br><br>20.11.2002 |
| Applicant<br>AMERSHAM BIOSCIENCES AB et al.             |  |  |

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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| Name and mailing address of the international preliminary examining authority:<br><br>European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized Officer<br><br>Luck, E<br>Tel. +49 89 2399-8238 |
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## PATENT COOPERATION TREATY

PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference<br>PU0294-PCT  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.<br>PCT/EP 03/12947   | International filing date (day/month/year)<br>19.11.2003  | Priority date (day/month/year)<br>20.11.2002 |
| International Patent Classification (IPC) or both national classification and IPC<br>H01J49/00 |   |  |
| Applicant<br>AMERSHAM BIOSCIENCES AB et al.  |   |  |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I  Basis of the opinion
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

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|--|---|
| Date of submission of the demand<br>19.05.2004   | Date of completion of this report<br>16.03.2005                         |
| Name and mailing address of the international preliminary examining authority:<br><br>European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465 | Authorized Officer<br><br>Lang, T<br><br>Telephone No. +49 89 2399-2594 |



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP 03/12947

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-8 as originally filed

**Claims, Numbers**

1-6 as originally filed

**Drawings, Sheets**

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP 03/12947

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |             |     |
|-------------------------------|-------------|-----|
| Novelty (N)                   | Yes: Claims | 2-6 |
|                               | No: Claims  | 1   |
| Inventive step (IS)           | Yes: Claims | 6   |
|                               | No: Claims  | 1-5 |
| Industrial applicability (IA) | Yes: Claims | 1-6 |
|                               | No: Claims  | -   |

**2. Citations and explanations**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1) Reference is made to the following documents:**

D1: US 5 464 985 A

D2: Lubman D M; Bell W E; Kronick M N; "LINEAR MASS REFLECTRON WITH A LASER PHOTOIONIZATION SOURCE FOR TIME-OF-FLIGHT MASS SPECTROMETRY"; Analytical Chemistry vol. 55 no. 8, pp. 1437-1440; XP002064382

D3: US 6 013 913 A

The documents D1 and D2 were not cited in the international search report.

**2) Novelty (Article 33(2) PCT)**

The subject-matter of **claim 1** is not new:

Each of **D1** (see figure 9b, column 9 lines 18-60, and claim 4) and **D2** (see figure 1 and page 1438, lefthand column, last paragraph) teach a reflectron with individually adjustable potentials on the reflectron electrodes; and thus anticipates the subject-matter of claim 1.

Besides, also D3 (column 6 lines 7-23) anticipates the subject-matter of claim 1, since there, the electric field inside the reflectron can be changed by switching electrode 9 either to HV supply 17 or to ground.

**3) Inventive Step (Article 33(3) PCT)**

**3.1) Dependent claims 2-5 only comprise subject-matter relating to features which are either known, explicitly or implicitly, from the citations or considered to be routine matter to be expected of the skilled person. Therefore these claims cannot serve as a basis for a new independent claim which would meet the requirements of the PCT as to novelty**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/12947

and/or inventive step:

The feature of **claim 2** (two sets of resistances) is an obvious alternative to continuously adjustable potentiometers such as known from D1 (as cited), and cannot constitute an inventive step.

The features of claims 3 and 4 relate only to the use of the claimed apparatus; and are moreover known from either D3 (linear field) or D2 (any curved field is "essentially" quadratic).

The feature of claim 5 relates to a trivial consequence of the structure of a reflectron (if there are N electrodes, N-1 resistances are needed between these electrodes), and does not solve any particular technical problem.

**3.2)** The subject-matter of claim 6 appears to meet the requirements of Art. 33 PCT, since it provides a mechanically robust and simple alternative solution to the problem of adjusting the field inside the reflectron, which solution is neither taught nor rendered obvious in the prior art.

**Re Item VI**

**Certain documents cited**

**Certain published documents**

| Application No<br>Patent No | Publication date<br>(day/month/year) | Filing date<br>(day/month/year) | Priority date (valid claim)<br>(day/month/year) |
|-----------------------------|--------------------------------------|---------------------------------|---|
| EP 1310982 A                | 14/05/2003                           | 29/09/2002                      | 09/11/2001                                      |

This document, which was not cited in the international search report and has a priority date before but is published after the priority date of the present application, discloses the subject-matter of at least claim 1 (see abstract, figure 3, and paragraphs [46-53]).